



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,939	04/30/2001	Kazutoshi Yasunaga	P20687	9403

7055 7590 11/26/2003

GREENBLUM & BERNSTEIN, P.L.C.  
1950 ROLAND CLARKE PLACE  
RESTON, VA 20191

EXAMINER
----------

OPSASNICK, MICHAEL N

ART UNIT	PAPER NUMBER
----------	--------------

2655

4

DATE MAILED: 11/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

TS

**Office Action Summary**

Application No.

09/843,939

Applicant(s)

YASUNAGA ET AL.

Examiner

Michael N. Opsasnick

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☒ Certified copies of the priority documents have been received in Application No. 09/101,186.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. In view of Applicants request to delete the following inventor named in parent application # 09/440092, filed November 15, 1999:

Taisuke WATANABE

from the list of inventors in the current application complies with the guidelines set forth in 37 C.F.R. 1.53(d)(4), and therefore, the application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of the file jacket and PTO PALM data to reflect the inventorship as corrected.

### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Double Patenting***

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686

Art Unit: 2655

F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-21 of copending Application No. 09/843877. Although the conflicting claims are not identical, they are not patentably distinct from each other because the content that the claims is essentially the same apparatus, despite a slight difference in wording. Therefore, it would have been obvious to one of ordinary skill in the art of excitation vector generation to realize that the claim language scope of claims 1-21 is not patentably distinct from claims 1-21 of Application No. 09/843877 because generating an input vector used for the encoding process is necessarily used in the decoding to have a successful representation of the original signal (as is well known in any encoding/decoding process).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 1-21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-23 of copending Application No. 09/843938 in view of Ozawa (5826226). Claims 1-23 of copending Application No. 09/843938 teach all of the claim elements of claims 1-21 except for the convolution

Art Unit: 2655

calculations as claimed in claims 1-21 of the instant application. However, Ozawa (5826226) teaches a convolution calculation to generate an excitation vector (Ozawa (5826226), col. 7 lines 4-30). Therefore, it would have been obvious to one of ordinary skill in the art of excitation generation to modify the scope of the claim language of claims 1-21 of patent application 08/943938 with a pulse based convolution calculation to generate an excitation vector because the pulse based system would advantageously reduce the number of calculation while maintaining the same quality (Ozawa, col. 2 lines 24-29).

This is a provisional obviousness-type double patenting rejection.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. Claims 1,3-18,20,21 are rejected under 35 U.S.C. 102(e) as being anticipated by Ozawa (5826226).

As per claims 1,9,18,20, and 21, Ozawa (5826226) teaches:

Art Unit: 2655

“a providing system.....predetermined polarity” as excitation quantization circuit provides a plurality of pulses (abstract, col. 2 lines 29-40) having certain positions (col. 2 lines 55-60); and polarity (col. 12 lines 47-51);

“a storage system.....waveform” as codebook storage storing information for synthesis (col. 11 lines 1-30);

“a convolution system.....modification.....said convoluting system outputting said transformed input vector as an excitation vector.....vector” as convolution calculation (col. 7 lines 4-22) utilizing the codebook (col. 7 lines 22-30).

As per claim 3, Ozawa (5826226) teaches:

“wherein said input vector is provided from an algebraic codebook” as input vector from algebraic codebook (col. 6 lines 61-66);

As per claim 4, Ozawa (5826226) teaches:

“wherein said input vector.....vector having a plurality of non-zero samples” as input vector having amplitude of 1 (col. 12 lines 44-51).

As per claims 5,14, Ozawa (5826226) teaches:

“said convolution system performs a convolution using .....fixed waveform.....storage system” as convolution calculation using fixed waveforms from storage (col. 7 lines 4-22 -> utilizing the codebook (col. 7 lines 22-30)).

Art Unit: 2655

As per claims 6,15, Ozawa (5826226) teaches:

“wherein said convolution system spreads an energy distribution of said input vector over a subframe” as spreading the input vector over the waveform (as in the convolution equation, col. 7 lines 5-18; col. 8 lines 27-30).

As per claims 7,16, Ozawa (5826226) teaches:

“wherein said at least one fixed waveform comprises three different fixed waveforms” as the signal contains at least three distinct components (col. 8 lines 32-36 → equation 14, three different summations)

As per claims 8,17, Ozawa (5826226) teaches:

“wherein said at least one fixed waveform.....having a different amount of energy spreading” as each summation is weighted depending upon the output of the spectrum parameter calculating circuit (col. 8 lines 27-36).

As per claim 10, Ozawa (5826226) teaches dispersing of the energy distribution (col. 7 lines 5-18).

As per claims 11-13, Ozawa (5826226) teaches spreading the energy distribution from a non-zero sample to a around, adjacent area, and adjacent samples (col. 12 lines 44-51 → showing non-zero samples, and distribution of the energy of the samples – col. 7 lines 5-18)).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2,9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa (5826226) in view of Laflamme et al (On Reducing Computational Complexity of Codebook Search.....)..

As per claims 2,9, Ozawa (5826226) teaches a codebook excited LP system, however, Ozawa (5826226) does not explicitly teach the structure of the codebook (sparse structures). However, LaFlamme teaches sparse algebraic codebooks to be used in CELP coders. (Laflamme, col. 1 page 177, introduction, 29-31). Therefore, it would have been obvious to one of ordinary skill in the art of CELP coders to modify the codebook structure of Ozawa (5826226) with sparse algebraic codebooks because it would advantageously improve the searching speed of the codebook structure and therefore produce synthesized speech with less delay (Laflamme et al, page 177, col. 1 lines 26-34).



Art Unit: 2655

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see related art listed on the PTO-892 form.

**11. Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872 9314,

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (703)305-4089, who is available Tuesday-Thursday, 9AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, can be reached at (703)305-4827. The facsimile phone number for this group is (703)872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (703) 305-4750, the 2600 Customer Service telephone number is (703) 306-0377.

mno

11/19/2003



DORIS H. TO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600